Ness, Amy

From: Kaehler, John
Sent: Wednesday, March 07, 2007 12:24 PM
To: Ness, Amy
Subject: RE: 14698

Amy -
Looks as though things are running well at the site. The home owner felt comfortable with the consultant and fortunately for us the consultant (Coteau) hired a professional radon installer to put the system in.
Here are a copy of my notes to get you up to speed. Normally we'd have received a CAD installation report by now for review. Since I've visited the site I wasn't going to lose any sleep over the lack of report submittal.
If you have any thoughts/concerns let me know.

Thanks
John

-----Original Message-----
From: Ness, Amy
Sent: Tuesday, March 06, 2007 11:37 AM
To: Kaehler, John
Subject: RE: 14698

Hi John,

Thanks for the email. I will wait to hear from you.

Amy

Amy Ness
Project Manager
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-----Original Message-----
From: Kaehler, John
Sent: Friday, March 02, 2007 3:01 PM
To: Ness, Amy
Subject: 14698

Amy -
Just a heads up. This site recently had a vapor mitigation system installed at one of the

residences that has been impacted.
By chance I'll be in the Brooten area this weekend so I'm going to stop in and take a peek and discuss the operation with the home owner.
I'll keep you posted.

Thanks
John

BACKGROUND:

Leaksite No: 14698 Date: 03/07/06

Site name: Former KCs Quick Stop, 230 1st St, Brooten

Hydro: John Kaehler
Proj.Mgr: Chris McLain, Steve Palzkill

Leak report date: 6/14/02
Leak discovered date: 6/13/02

Consultants: Coteau

Emergency : No

Tank Info:

2 gas and 1 diesel were removed 4/17/02, no tanks installed as replacements.
No tanks currently at the site.

Site Info:

Residential and commercial properties surround the site.
No potential leak sources identified within 500 ft.

Release Info:

Most likely from tanks formerly located at the site.

Excavation:

None.

Soil Investigation:

6 SBs were completed onsite and an additional 4 borings were completed off site
2 basins were present, 1 for gas and 1 for diesel
B-1 was worst case boring for gas. Sample collected at 10' indicated 4600 ppm GRO.
B-3, approx 30 ft S of source was 9100 GRO @ 10' and 490 ppm @ 16'
B-4, approx 30' W of source was 5900 GRO @ 10'
B-6 was worst case boring for diesel. No sampling for DRO ?????
The remaining 2 onsite soil borings and all 4 off site soil borings did not detect contamination.
It appears that the majority of the contamination is located near the tank basin and the east edge of the dispenser island.
No surprises as to magnitude and location of soil contamination.

MTBE was detected in borings 1,3, and 4. However, water samples collected from these borings did not contain MTBE.

Groundwater investigation:

Samples were collected from 4 borings, 1,2, 3,4. Contamination was detected in 3 of the 4 borings. Somewhat confusing results. In B-1Benz @ 1250 ppb was the highest with GRO @ 45,000 while in B3 and 4 Benz was around 150 ppb with GRO around 340,000 ppb. This most likely is explained by the presence of high levels of **tri-methyl benzene (3000-7000 ppb)** found in 3 and 4 while this compound is absent in B-1. High levels of **naphthalene (3000)** was also found in B-4

Borings 6, 7, 8, 9, and 10 were completed as MWs. Not sure why they chose those borings to be completed as MWs when the highest levels of contamination were found in 1, 3, and 4.

GW is approx 10-12 ft bg

MW-1 located near diesel basin on NW property boundary
MW-2 located offsite, approx 120' N of source
MW-3 located offsite approx 60' E of source
MW-4 located offsite, approx 160' S of source
MW-5 located 60' S near SE property boundary
MW-6 located offsite approx 250' E of source

Sampling Benz/GRO/DRO

	MW3	MW4	MW5
08/02	nd/nd/na	nd/288/na	503/14,000/na
11/02	728/19,000/na	nd/186/na	1200/57,000/na
02/03	349/7100/na	9/206/na	4900/54,000/na
05/03	201/5800/na	5/nd/na	2600/35,000/na

	MW1	MW2	MW6
08/01	nd/nd/na	nd/nd/na	
11/02	nd/nd/na	nd/nd/na	
02/03	nd/nd/na	nd/nd/na	nd/nd/na
05/03	nd/nd/na	nd/nd/na	nd/nd/na

GW flow direction appears to be more towards the E than towards the S. Not sure why contamination shows up in MW-4???

Hydrology:

Depth to GW; 10-12 ft
Conductivity: 640 ft/day
Aquifer Thickness: 19 ft
Transmissivity (ft^2/day): 4500 - 26,000
GW Flow Direction; ESE
Velocity: 3 ft/day

Aquifer Type:

General geology/stratigraphy:

0-30' sands/gravel

30-140' clay/sand

Well Receptor Info:

A domestic water supply well exists approx 320 ft SE of the release, completed at 45' bg, with static @ 12 ft bg. Well log indicates no confining layer present between the impacted aquifer and the well screen. **Although 320 ft from the release this well does have some potential of impacts from this release.**

A muni well exists approx 2600 ft SE of the release, completed at 166 ft bg with static @ 21 ft.

A muni well exists approx 1100 ft NE of the release, completed at 220 ft with static @ 22 ft.

Muni water is supplied to the area.

Surface Water Info:

None within 1/4 mi

Vapor Risk Info:

Storm/sanitary sewers are approx 8 ft bg, with GW around 10-12 ft bg.

A vapor survey was conducted, 8 basements, 4 sanitary sewer manholes, 3 storm sewer manholes, and 2 storm sewer drains. The only elevated reading, 2.1 ppm, was from the sanitary sewer manhole located WNW of the release at the corner of the alley and Hwy 55. **I don't think this elevated reading is the result of this release.**

Review of RI dated Aug 03

Consultant recommendations/discussion:

Recommends quarterly monitoring of GW

Semi-annual monitoring of sewer manholes S of Hwy 55 on Western Ave as well as basements at 100, 110, and 120 S Western Ave.

Hydro Comments :

High levels of contamination exist in the GW but there does appear to be a decreasing trend since the tanks have been removed.

Not sure why high levels of tri-methyl benz exist in MW-5. Will need to test for VOC's and not just BTEX. MWs not previously tested for VOC's just the borings.

Some concern with the existence of private well approx 320 ft SE of site which taps the impacted aquifer, although, it is screened from 40-45 ft bg.

Should also include the residence at 111 S. Western Ave for basement monitoring.

02/26/04

Consultant indicated vapors were detected in basement sump of nearby residence, 110 S Western, which is the residence located across the street to the southwest. MW-3 is north of this residence and MW-4 is west of this residence.

Water levels in 3 and 4 are approx 10 ft bg. The conditions in this area appear to be sandy so it's not a surprise that sump water would be contaminated.

Sampling Benz/GRO/DRO ppb

	MW3	MW4
08/02	nd/nd/na	nd/288/na
11/02	728/19,000/na	nd/186/na
02/03	349/7100/na	9.4/206/na
05/03	201/5800/na	5.0/<100/na

The consultant is currently monitoring GW on a quarterly basis and basement monitoring on a semi-annual basis.

Will change sampling to include sumps on a quarterly basis and also will collect water samples from the sumps.

09/01/2005

Review of annual dated May 05
Review of Status Update report dated June 05
6 sampling events since last report.
GW flow continues towards the SE
MW1; always has and continues to be clean
MW2; always has and continues to be clean
MW6; always has and continues to be clean
MW3; low levels and decreasing
MW4; low levels, stable
MW5; high levels, stable, worst case well

Sampling Benz/GRO/DRO

	MW3	MW4	MW5
08/02	nd/nd/na	nd/288/na	503/14,000/na
11/02	728/19,000/na	nd/186/na	1200/57,000/na
02/03	349/7100/na	9/206/na	4900/54,000/na
05/03	201/5800/na	5/nd/na	2600/35,000/na
08/03	29/2171	<1/147	900/21,500
11/03	38/ 837	8 /418	2313/38,200
02/04	4/2500	2 /380	1600/33,000
05/04	<25/ 970	5 /690	1100/27,000
08/04	<0.5/ 260	<1/710	1300/26,000
11/04	<10 / 740	3 /640	960/19,000
05/05	<1 / 650	<1/380	2400/49,000

Vapor monitoring was conducted at 2 sanitary and 2 storm sewer manholes. No elevated readings at any of these 4 points.
Vapor monitoring was also conducted in the basements of residences at 100, 110, 111, and 120 South Western Avenue. **Elevated readings were detected at 110 South Western Ave on 3 of 4 occasions @ 551, 34, and 129 ppm PID. This residence is located approx 100' dg of the release**.

Consultant Recommendations;

Continued quarterly monitoring of GW for BTEX and GRO

Continue vapor monitoring of 110 and 111 South Western Avenue

Advance a boring thru the concrete floor of the basement at 110, with soil sampled collected every 2 ft. If contamination detected in the soil, a blower should be installed to vent the basement. Possible active remediation using vacuum enhanced vapor recovery system.

My Take;

The GW plume appears to be stable/decreasing.

The main concerns at this site are the petroleum vapors detected in the basement across the street.

Will agree with monitoring but only necessary at MWs 3, 4, 5, and 6.

Will discuss how to proceed with the vapor problem with Tom and Sandeep. In discussion it was decided that we could move immediately to sub-slab sampling.

Review of monitoring update dated Jun 05

GW flow continues to the SE

No free product encountered

Consultant failed to screen basement at 110 South Western Avenue because the resident wasn't at home.

MWs 1, 2, and 6 remained clean

MWs 3, 4, and 5 continue to be dirty w GRO @ 650, 380, and 49,000 respectively. No real surprises with any of these values.

05/19/06

Review of AMR dated Jan 06

GW flow continues to the SE

MW1; always has and continues to be clean

MW2; always has and continues to be clean

MW6; GRO was detected for the 1st time. GRO @ 109. Hopefully this is an anomaly because MW-6 would be considered the furthest dg well, approx 200' E of the source area.

MW3; low levels and decreasing. Early (03) in the investigation this well was quite contaminated. Benz @ 30 and GRO @ 2000 ppb. Latest results have Benz <1.0 and GRO approx 100.

MW4; low levels, stable. Benz <1.0 and GRO @ 100 ppb.

MW5; high levels, stable, worst case well

Sampling Benz/GRO/DRO

MW3 MW4 MW5

08/02	nd/nd/na	nd/288/na	503/14,000/na
11/02	728/19,000/na	nd/186/na	1200/57,000/na
02/03	349/7100/na	9/206/na	4900/54,000/na
05/03	201/5800/na	5/nd/na	2600/35,000/na
08/03	29/2171	<1/147	900/21,500
11/03	38/ 837	8 /418	2313/38,200
02/04	4/2500	2 /380	1600/33,000
05/04	<25/ 970	5 /690	1100/27,000
08/04	<0.5/ 260	<1/710	1300/26,000
11/04	<10 / 740	3 /640	960/19,000
05/05	<1 / 650	<1/380	2400/49,000
08/05	<1 / <100	<1/320	3900/42,000
11/05	<1 / <100	<1/107	2200/42,000

Vapor impact monitoring.

PID sampling of residences across the street.

3 of 4 were ND but 130 ppm showed up in the basement at 110 South Western Ave.

Later a sub slab and a basement sample was collected from 110 S. W Ave

Nov sub slab had multiple contaminants detected, most notably Benz @ 8 ppb and THC(gas) @ 3100 ppb.

Dec basement summa results also had multiple hits. Benz was ND however THC(gas) was 477.

Indications are that vapors are emanating from a former cistern in the basement floor. This residence is approx 100' SE of the source area and based on GW flow and contamination detected in the GW it is not surprising that vapors are able to migrate into this house.

Consultant recommendations;

Continued GW monitoring: **I agree**

PID screening of residence at 110 S W. Ave: **not necessary if summa canister work is conducted**

Quarterly vapor monitoring of basement at 110 using summa canisters: **I agree**

Seal the cistern in 110: **I agree**

Conduct VI study: **I agree**

Remarks indicate we should be receiving a CAD for remediating vapors at the 110 property shortly.

07/11/06

Review of CAD vapor mitigation system dated May 06

Passive ventilation system to be installed in the basement, basically a radon mitigation system with a "whirly bird" fan on the roof.

An abandoned chimney will provide a path to the roof. **Does the pipe extend out the top of the chimney ?? If so how can we assure that it is not within 10 ft of any opening??**

Seal the cistern to prevent indoor air from migrating to the vent system. Fill the cistern and cover with approx 2" of concrete.

Reroute the furnace condensation drain from the cistern to the sanitary sewer.

Quarterly summa cannister testing of the basement.

System will be tested and additional piping will be installed if necessary.

Not sure if the cracks extend all the way thru the walls. ***If cracks do not extend thru the floor or are not properly located, test holes should be drilled thru the basement slab for system testing.***

Based on what I've observed with "Radon" systems this should work.

09/20/06

Spoke with Gloria today. She had concerns with her inability to get the recent summa results. I told her I'd discuss the situation with Steve Palzkill and make sure she's kept in the loop. Evidently Coteau is unwilling to release the results without approval from the RP. There appears to be a slight change in RP oversite. Brian no longer is in charge, Paul ?? (same last name as Brian) is taking charge.

03/04/07

Made site visit with Audrey and Tom as part of training in Morris, MN.

Met with Morris Gross, Gloria was called away.

The cistern in the basement was filled in with sands and covered with concrete. This should help in prevent vapor migration into the basement. Indications were that the highest levels of vapors were detected near the cistern

The mitigation system was installed by "Professional House Doctors". It consisted of a 4 inch vent pipe and a blower with the exhaust pipe out the roof of the house. The blower was pulling approx 1 ½ in water at the time of our visit.

Review of the basement showed stored paints and the furnace proximate to the venting area.

Morris indicated that he's been happy with how Scott Hunke (Coteau) has been handling the investigation.